Abstract of the Disclosure

Methods and apparatus for encoding image data
to facilitate subsequent insertion of local image data
are described. Also described are methods and apparatus
inserting image data, e.g., at local broadcast stations,
without having to fully decode a received encoded
bitstream. The encoding methods of the present invention
involve treating images to be encoded as a plurality of
distinct, non-overlapping image regions or segments for
encoding purposes. Image segments which are designated
for use for local data insertion are not used as
reference data for motion compensated prediction purposes
when generating motion vectors to represent image areas,
e.g., the area representing the main picture, which are
outside the local data insertion segments. Because image
segments which may be replaced are not used as reference
data for image segments which will not be replaced,
unintentional prediction errors which might otherwise
result from replacing one or more image segments as part
of a local data insertion operation are avoided. In one
embodiment, the segments designated for use when
inserting local image data are encoded using only the
corresponding image segments of preceding or subsequent
images. In such an embodiment, when all or some of the
original content of a segment is to be used when
inserting data, only the data representing the image
segment into which new data is to be inserted needs to be
decoded since motion vectors in the insertion region do
not reference image areas outside the insertion region.